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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,550	01/14/2002	Kazutaka Majima	2000-22	4691

7590

11/14/2005

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EXAMINER

VO, HAI

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/890,550

Applicant(s)

MAJIMA ET AL.

Examiner

Hai Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 43-46 and 48-54 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 43-46, and 48-54 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

1. The indicated allowability of claims 43-46, 48-54 is withdrawn in view of the references to WO 99/38651, US Patent Application No. 10/018708, and Tsukada (US 4,846,673) (see rejections below).

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 48 and 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 48

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recites the broad recitation of the thermal conductivity for 100 W/m.K or more ,  
and the claim also recites the thermal conductivity for 160 W/m.K or more which  
is the narrower statement of the range/limitation.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 43-46, and 48-54 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-34 of copending Application No. 10/018708 in view of Tsukada (US 4,846,673).  
The claims of the copending Application No. 10/018708 teach every limitation of the claimed subject matter except the base material made from a silicon carbide metal composite having a porous structure formed by silicon carbide crystal wherein the open pores are impregnated with metal silicon, wherein the silicon carbide metal composite has a silicon carbide crystal average grain diameter of 20 microns or greater, a porosity of 10% to 50% and a thermal conductivity of 100 W/m.K or more and wherein 100 parts by weight of silicon carbide is

impregnated with 15 to 50 parts by weight of metal. Tsukada, however, teaches a heat resistant jig made from a silicon carbide metal composite having a porous structure formed by silicon carbide crystal wherein the open pores are impregnated with metal silicon, wherein the silicon carbide metal composite has a silicon carbide crystal average grain diameter of 40 to 150 microns, a porosity of 49% and a thermal conductivity of 100 W/m.K and wherein 100 parts by weight of silicon carbide is impregnated with 50 parts by weight of metal (table 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the porous body as taught in Tsukada as the base material of the polishing table motivated by the desire to provide the table with superior thermal conductivity which enhances heat distribution and promotes uniform temperatures within the apparatus.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 43-46, and 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application No. 10/018708 in view of Tsukada (US 4,846,673). The copending Application No. 10/018708 teaches every limitation

of the claimed subject matter except the base material made from a silicon carbide metal composite having a porous structure formed by silicon carbide crystal wherein the open pores are impregnated with metal silicon, wherein the silicon carbide metal composite has a silicon carbide crystal average grain diameter of 20 microns or greater, a porosity of 10% to 50% and a thermal conductivity of 100 W/m.K or more and wherein 100 parts by weight of silicon carbide is impregnated with 15 to 50 parts by weight of metal. Tsukada, however, teaches a heat resistant jig made from a silicon carbide metal composite having a porous structure formed by silicon carbide crystal wherein the open pores are impregnated with metal silicon, wherein the silicon carbide metal composite has a silicon carbide crystal average grain diameter of 40 to 150 microns, a porosity of 49% and a thermal conductivity of 100 W/m.K and wherein 100 parts by weight of silicon carbide is impregnated with 50 parts by weight of metal (table 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the porous body as taught in Tsukada as the base material of the polishing table motivated by the desire to provide the table with superior thermal conductivity which enhances heat distribution and promotes uniform temperatures within the apparatus.

8. Claims 43-46, and 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/38651 in view of Tsukada (US 4,846,673). WO'651 teaches a polishing apparatus comprising a plurality of bonded plates 10, 34, 38 and 44 made of SiC having a thermal conductivity of 29 W/m.K or more and a

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plurality of fluid passages 32 formed in a bonding interface of the plates 30 and 34 (figure 3, page 9, lines 15-25). WO'651 does not teach the plates made from a silicon carbide metal composite having a porous structure formed by silicon carbide crystal wherein the open pores are impregnated with metal silicon, wherein the silicon carbide metal composite has a silicon carbide crystal average grain diameter of 20 microns or greater, a porosity of 10% to 50% and a thermal conductivity of 100 W/m.K or more and wherein 100 parts by weight of silicon carbide is impregnated with 15 to 50 parts by weight of metal. Tsukada, however, teaches a heat resistant jig made from a silicon carbide metal composite having a porous structure formed by silicon carbide crystal wherein the open pores are impregnated with metal silicon, wherein the silicon carbide metal composite has a silicon carbide crystal average grain diameter of 40 to 150 microns, a porosity of 49% and a thermal conductivity of 100 W/m.K and wherein 100 parts by weight of silicon carbide is impregnated with 50 parts by weight of metal (table 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the porous body as taught in Tsukada as each plate of the polishing table motivated by the desire to provide the table with superior thermal conductivity which enhances heat distribution and promotes uniform temperatures within the apparatus.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-

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1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

*Hai Vo*

**HAI VO  
PRIMARY EXAMINER**